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### III. NOTES ON COLONIES AND COLONIAL GOVERNMENT

**Porto Rico.**—*Recent Progress of Public Schools and Highways.*—In pursuance of the plan of presenting, with each issue of THE ANNALS, some definite problems or features of our colonial policy, there has been chosen for the present number a discussion of two fundamental questions of Porto Rican administration, the school system and the new plan of highway construction and maintenance, upon both of which so much of the future prosperity of the island depends. Hon. Samuel M. Lindsay, the Commissioner of Education, and A. Stierle, Esq., the Superintendent of Public Works, have kindly contributed to THE ANNALS an authoritative discussion of the work of their respective departments.

*The School System of Porto Rico.*—There is a good American system of schools of primary, secondary and grammar grades in every municipality in the island, one high school in San Juan, and a Normal School for the training of teachers, all in successful operation under a general school law enacted by the Insular legislature the provisions of which are for the most part eminently wise and practical. The elementary schools cannot yet be compared, of course, in their every-day output of work with the best city schools of the same grade in the states, but when contrasted with the schools under the Spanish régime, the improvement is little less than marvellous. The territory of the whole island is divided into sixty-six legally constituted municipalities which include urban and rural districts. These are grouped into sixteen school districts, to one of which the neighboring islands of Vieques and Culebra are added. At the end of the last school year (June 21, 1901), there were 733 schools open, comprising 33,802 pupils enrolled, with 768 teachers, which was an increase for that year of 20 per cent in the number of schools, 37 per cent in the number of pupils and 21.5 per cent in the number of teachers. The scholastic year 1901-02 began on September 30, 1901, with 780 schools open, 32,302 pupils enrolled and 829 teachers; and on June 20, 1902, there were 874 schools open with 40,993 pupils enrolled, and with 911 teachers, which is a material increase as compared with the close of the last school year. Compared with the beginning of this school year full reports at the end of the fifth month show an increase of 12.3 per cent in the number of schools open, 28.9 per cent in the number of pupils enrolled, and 5.6 per cent in the number of teachers employed.

These figures show that under American civil government we have nearly doubled the educational advantages offered free to the masses of the people as compared with the maximum facilities provided by the Spanish Government. A comparison of statistics of the number of schools open in the various municipalities of the island at the close of the last calendar year preceding the American occupation and those open now, including special schools (night schools, high schools and kindergartens, not enumerated above) shows that on December 31, 1897, there were 538 such schools, while on February 21, 1902, there were 939.

The total number of pupils enrolled December 31, 1897, is reported at 22,265 as compared with 40,993 on June 20, 1902. This statistical comparison is more than generous to the Spanish system, because the schools they did have were not entirely free. All pupils able to pay were required to do so and the fees thus received went direct to the teachers as a perquisite and supplement to salary, and we may therefore be sure that all were required to pay who could. The work done under the Spanish school system was scarcely worthy of a school. There was no uniform course of study, no attempt at rules, regulations or order; no thought of the rights of the child, no endeavor to apply pedagogical principles nor to furnish teachers with an adequate equipment for their work. A rural teacher lived with his family in the school house and did as he pleased with his pupils, frequently not teaching them at all himself, but hiring a substitute or delegating one of the older and brighter pupils to teach under his general instruction while he drew his salary and sometimes absented himself from school for considerable periods. There were but two school supervisors for the entire island and they made only one visit a year to each school, chiefly for the purpose of examining the pupils in the catechism and doctrines of the Roman Catholic Church. We now have a graded course of study which is followed as far as possible by all teachers, even by those teaching in the ungraded rural schools; the best books and supplies the government can get are furnished free and there are sixteen school supervisors who are required to visit each school in their district at least once a month. They confer and correspond with their teachers at more frequent intervals and report in writing to the department several times a week on various questions relating to the schools. Mr. E. C. Hernández, the present chief clerk of the Department of Education and formerly secretary of the Insular Board of Education, himself a scholarly investigator of educational questions and an able text-book writer, prepared a comprehensive report on the history of the school system of the island under Spanish rule. It was printed as part of a document entitled, "Education in Porto Rico," prepared in response to a resolution of the United States Senate of April 12, 1900 (Fifty-sixth Congress, 1 Session, Senate Document 363, Washington, 1900), and should be consulted by those who care to carry these comparisons farther.

Resuming the discussion of our present school system, we should note that while 40,993 pupils were reported as enrolled and in attendance at the end of June, we had enrolled during the school year 59,096 pupils. How much still remains to be done is readily seen from the statement that only 4.19 per cent of the population was in attendance at the schools, while in the United States, the Commissioner of Education at Washington, Dr. Harris, reported for the year ending June 30, 1901, that about 21 per cent of the total population attend some public school supported by the taxes of the state or municipality.

*School Building and Equipment.*—Spain left no legacy of school buildings. In November, 1900, the President of the United States made an allotment of \$200,000 for school extension to which amount was subsequently added,

by the Governor of Porto Rico from the trust funds placed at his disposal by the President of the United States, two allotments, one of \$15,000 for general school extension, and one of \$35,000 for the erection of an Insular Normal School. From the total allotments made prior to May 1, 1902, for school extension, amounting to \$250,000, we have completed one large Normal School building and thirty-eight public school buildings, of which all are occupied but three, which will be ready before the opening of the next school year; and we have a balance of about \$25,000 with which it is intended to build and equip an Industrial School in the city of Ponce during the coming summer, which will make a total of forty public buildings equipped with modern school furniture, with accommodations for nearly 6,000 pupils at a cost of \$250,000. In view of the high cost of building material, much of which has to be brought from the States, the scarcity of mechanics able to do the grade of work demanded on most of these buildings, and the enormous expense of transporting workmen and materials from the coast to the interior districts of the island, this result could only have been secured by economy and prudent management and I believe that the people of Porto Rico have got large value from the expenditure for schools of the trust funds so generously donated by the people of the United States.

Recognizing the urgent need for a continuation of this work of school extension, the governor and heads of executive departments, in whose hands the trust fund allotted by the President of the United States has been placed, consented upon my recommendation on April 30 to the use of the further sum of \$150,000 for school buildings. Eighty-five thousand dollars was immediately allotted, \$21,000 of which is for a model six-room brick graded school and a two-story frame principal's residence, as part of the Insular Normal School at Rio Piedras. Twenty thousand dollars, or so much thereof as may be necessary, is to be used in the construction of twelve agricultural or rural schools. Forty-four thousand dollars for the erection of graded school buildings on a new plan by which the municipalities in which the buildings are erected will be required to give the ground and pay one-half of the cost of the building. The balance of the \$150,000, after the \$85,000 allotted on or about May 1 is expended, should be made available for the erection of graded school buildings in accordance with the plan just mentioned. In recommending this plan I felt that the trust fund would be exhausted long before the most imperative needs for school buildings could be met, unless we could begin to capitalize the "object lessons" of the first school houses erected by the Insular Government and induce the municipalities to tax themselves for this purpose. I had previously secured as one of my legislative acts the passage of a bill giving the municipalities the right to levy a special school tax not exceeding one-tenth of 1 per cent on all personal and real property, to be turned over direct to the local school boards and to be used exclusively for school purposes. At the same time another law was passed raising the minimum per cent of all taxes which the municipalities were required to turn over to the school boards for school purposes from 10 per cent to 15 per cent. Thus the school boards should find themselves from

now on much better able to cope with their financial difficulties. The moment seemed opportune therefore to suggest that while the Insular Government might continue to build rural school houses in the poorer and most needy districts, henceforth in the larger towns and more prosperous districts graded school buildings would be constructed only where the municipality agreed to furnish the ground and pay half the cost of construction. To make it possible for the municipalities to accept this offer in cases where the funds were not immediately available, or to enable them in some cases to distribute the burden of their share, the Department of Education has offered to erect the building as usual and pay the entire cost and allow the municipality to pay its share in monthly installments, to be withheld by the treasurer of Porto Rico, from the taxes collected by him for the municipality. These advances will be made without interest. The plan has worked well, and several municipalities, within one month since it was announced, have already passed the necessary resolutions to avail themselves of this offer.

*Types of Schools.*—The conditions in Porto Rico demand that we should have at least three distinct types or groups of schools if the system of public education is intended to meet with any degree of completeness the educational needs of the island.

The first type or group of schools is that designed for purposes of general education. The object of these schools is to reduce the amount of illiteracy. This work can be carried just as far as the public desires to maintain it as a part of the public school system. It may take pupils from the graded schools to a high school course, into the college, and through the college to the university. We have now provided for a course of study running through eight years of graded work, the final examinations in which will admit to any high school in Porto Rico, and the legislature has provided for the establishment of four high schools, well distributed geographically, to be located at San Juan, Mayaguez, Ponce and Fajardo, in which the work of these pupils can be carried on to the point at which they will be ready for admission to the average American college. One of these high schools is already in operation at the present time, namely, that at San Juan, and at least one more will be in operation during the next school year; and two years hence we shall have pupils enough ready for this work to maintain a complete four-year high school course at San Juan, and a two-year course at Ponce, and to have at least the first year of high school work in successful operation at Mayaguez and Fajardo. In time there will be enough pupils prepared in our own schools ready for college, in addition to a number of young persons in Porto Rico who have secured their preparation elsewhere, who will be ready for college, to justify the establishment of a college academic course. The literary ambitions of the people are marked, and the demand for the establishment of an institution of college grade, which in time would lead to the development of a great Antillean university as a part of the public school system of Porto Rico, is likely to increase as the years go on. We should not be blind to the development of the distant future while absorbed in the more pressing demands of the immediate present. While for many

years to come the needs of the great masses for the most elementary forms of education will be so great as to preclude the judicious expenditure of public money, for the vastly more costly types of higher education, open necessarily only to the few, the suggestion which has frequently been made looking to the establishment of a Porto Rican college or university is one that should be encouraged and for which plans should be made years in advance. Institutions of higher learning, which would draw to Porto Rico students from all the South American Spanish-speaking countries and enable them to receive their professional as well as their cultural training for positions of large usefulness in public life in an American college, where the experiment of combining the Anglo-Saxon and Latin races under American and Spanish institutions, and of the assimilation of the best in both, is being made, would constitute a powerful and potent influence in the extension of American principles and ideals.

The second type should be a school especially designed to meet the needs of the rural and agricultural population of the island. It should begin with the agricultural rural schools furnishing instruction in the elementary branches of a general education, but not designed to start the pupils on a course which in its highest development would lead into the ordinary college or university, but rather to the agricultural and mechanical college providing a training in practical and applied science.

The third type is the industrial and trade school for the introduction of which we have just begun to plan. These schools should be established in the larger cities and have every equipment that is needed to give a good elementary education and a special training or preparation for one of a half dozen or more important trades.

The work of all three types of schools would naturally develop into a harmonious system in which there would be an interplay of activity and influence between the three divisions of work just outlined. The industrial and mechanical schools would encourage and foster the introduction of manual training in the ordinary day school, and the work of the agricultural rural schools would naturally encourage nature-study and other useful and neglected forms of general education in the regular day school, while the day school and the high school should maintain and foster in both the agricultural and industrial schools a high standard of general education and culture.

In addition to these three types of schools there is in our educational system to-day, and there will ever be need for, a fourth group of special schools designed to meet special needs. Thus at present we are maintaining night schools, schools for the training of nurses, and a school of drawing and painting.

*Imperative Needs.*—In the brief survey given above, based as it is upon incomplete statistics for the year, only the more essential features of the school work in Porto Rico have been touched upon. From these, however, it will be seen that there are many signs of progress. The general result is a tribute to the efficacy of the American free public school and it is no less a tribute to the intelligence and the noble aspirations of the Porto Rican people.

First of all we need more schools. We have 50,000 children now in school. There must be at least 350,000 children of school age in the island at the present time. Of these, possibly 50,000 would be inevitably deprived by good reasons from availing themselves of the advantages of the public school. We probably have, however, at least 300,000 children who ought to be in school, and of these we have at present only one-sixth enrolled. Nearly all of our schools have long waiting lists of the names of those being urged by anxious parents for a place as soon as a vacancy occurs. Two hundred and fifty thousand children out of school who should be in school is a serious problem and should weigh heavily upon the public conscience. To furnish school equipment for all of these children would require an expenditure of nearly \$3,000,000 annually, a sum exceeding the total revenues of the island by 50 per cent. We increased last year the budget of the Department of Education by \$32,000, making the present budget about \$532,000. This budget should be increased next year to \$650,000 as a minimum. This is probably all that the Insular legislature can do. It will then have dealt more generously with its public schools, in proportion to its ability, than probably any other community under the American flag. Where any additional help is to come from I do not know, but I do know that in addition to all that the legislature can do we should have for use next year at least one hundred additional American teachers and that all of these, together with the American teachers now here, should be paid a minimum annual salary averaging \$600, the increase to be an offset for the cost of transportation to and from the states, which was formerly furnished by the government. For this item we need \$70,000.

Second, for the buildings and equipments of three industrial schools we need, in addition to what the Insular Government has provided the sum of \$100,000.

Third, we need immediately an agricultural and mechanical department in the Insular Normal School, the equipment of which for the first year would cost \$50,000.

Fourth, we should have as soon as possible, at least one hundred new rural and agricultural school buildings with equipment, to be located in the most needy and backward parts of the island. This item would cost \$200,000.

Fifth, we need for our graded schools in towns and cities immediately at least 20,000 new school desks and other school appliances and apparatus, which would cost about \$75,000.<sup>1</sup>

#### PARTIAL SUMMARY OF SCHOOL STATISTICS FOR PORTO RICO

*Average Number of Schools Open from September 30, 1901, to June 20, 1902*

Boys .....	81
Girls .....	43
Mixed .....	733
Total .....	857

<sup>1</sup> Contributed by Hon. Samuel McCune Lindsay, Commissioner of Education of Porto Rico.

*Average Number of Buildings in Use for Schools*

Town .....	124
Rural .....	477
Total .....	601

*Average Number of Teachers Employed*

White, males .....	553
White, females .....	288
Colored, males .....	39
Colored, females .....	31
Total .....	911

Of which ninety-six were Americans.

*Average Number of Pupils in Attendance*

White, males .....	17,649
White, females .....	10,486
Colored, males .....	6,859
Colored, females .....	4,510
Total .....	39,504

Percentage of total population in attendance 4.19.

*Road Construction.*—The work of the Bureau of Public Works was carried on until March 1, 1902, under the old organization as a board. Since that date the board has been abolished, by special act of the legislature, and a Bureau of Public Works created, which in spirit, organization and method of doing business conforms more to the changes and requirements made necessary by the enforcement of the Foraker law. At the same time were enacted two other important laws which affect the work of the bureau: a county road law based upon the division of the island into counties, and the regulations referring to the police of highways. The latter was immediately promulgated; the former still awaits the preliminary steps to be taken by the new county authorities.

The work of the bureau is at present subdivided into three divisions: (1) Roads and Bridges; (2) Public Buildings and Grounds, and (3) Franchises. Except in the buildings division, all employees are more or less assigned to one work or another, as occasion arises, and official titles and prerogatives have lost much of their former glory. The disbursements made during the past year amounted to over \$600,000.

*Roads and Bridges.*—This division constitutes at present the most important one of the bureau, performs the largest amount of work and consequently



sustains the heaviest expenditures. It is subdivided into: (1) Maintenance of roads; (2) Construction of new and reconstruction of old and unfinished roads; (3) Surveys and examinations for new roads and bridge sites.

Numerically, the personnel pertaining to this division has been during the past year exceptionally large, principally on account of the many surveying parties in the field and the extensive repair and construction work on roads which has been done by means of day labor. Besides the regular road force on maintenance, which consists of road supervisors, overseers, foremen, sectionmen and laborers, there were employed ten assistant engineers on surveys and construction work, each one of which had for assistants about four instrument men who, when necessary, act also as inspectors. On the repairs of old roads were employed on an average eleven temporary overseers, men of experience who organized their working forces in accordance with the needs of the moment. It is estimated that during the past year no less than 20,000 men, exclusive of the regular force, have found employment on road-work as laborers, not to mention the thousands employed by road contractors.

The assistant superintendent exercises special supervision over surveys and the reconstruction and repair of old roads, and those in local charge report directly to him. The road supervisors on maintenance, of whom one is located in San Juan and one in Ponce, and the assistant engineers in local charge of new work, who are individually held responsible for the proper execution of work assigned them, report directly to headquarters. Under the present organization the services of the road supervisors and the force under them are needed throughout the year; those of the assistant engineers and their subordinates are temporary and special for the work in hand.

*Maintenance of Roads.*—The total number of kilometres of macadam roads maintained and taken care of by the bureau during the past year is 424.10; of which 381 were maintained by the regular force, and 43.10 kilometres by extra gangs of men in charge of special overseers when more than ordinary care was required on account of the incomplete and new state of the works.

There are now under maintenance by the bureau, a total of 424.1 kilometres of which 284.1 kilometres were constructed by the Spanish Government and 140 kilometres by the Americans.

The heavy and persistent rains during the last year have seriously interfered with the work undertaken by the contractors, and it was not until the dry spell of January and February gave a better opportunity to push the work that satisfactory progress was made.

Considering the prices paid for stone during previous years, those paid the past fiscal year are comparatively low and were rather surprising in view of the exorbitant prices asked two years ago at the time the money basis was suddenly changed. It is an indication that economic conditions are resuming a more natural basis. There was a great deficiency in road-building tools and machinery, particularly in road rollers. Those on hand were principally of old-fashioned patterns and too light, having been made of rollers formerly used for crushing sugar cane and very small in diameter,

whose efficiency was very little increased by the addition of a wooden box filled with stone.

Eight large and modern horse road rollers were purchased at wholesale prices of American contractors who were leaving the island. These were principally required, however, for work on new roads. Two additional steam rollers were obtained from the United States and were specially assigned for work on the San Juan-Ponce road, upon which at the end of the fiscal year three steam rollers, including the one purchased the previous year, were at work. Besides these three, another steam roller belonging to private parties, has been rented from them and has been at work on the Arecibo-Ponce road, near Arecibo, since April last. The great advantage in every way of steam rollers over those drawn, as heretofore, by oxen, has become more and more apparent, and it is contemplated to continue their introduction and to augment their number until their distribution is so adjusted that each one can be kept steadily at work throughout the year on the principal roads of the island.

The number of cubic metres of broken stone placed upon the roads by the regular force during the year was 25,672, of which 17,402 cubic metres were placed in the North division and 8,270 cubic metres in the South division. Including hauling and spreading stone and screenings, and sprinkling and rolling the same, the average cost of placing one cubic metre was sixty-two cents; or, adding the average cost of the stone, \$2.25 in all. The cost of labor being about the same throughout the island, except in the vicinity of San Juan, the final cost is largely determined by the charges for hauling, ox-team hire and the price for stone, the latter depending greatly upon the accessibility of the quarries, their distance from the point of delivery, and the quality and the hardness of the stone to be broken. It is expected that the primitive methods still obtaining in producing macadam and in transporting it will soon be eliminated by the introduction of modern plants, such as stone crushers and portable tracks, as used elsewhere, which would undoubtedly reduce the unit price. To encourage such a change, however, and to compensate for the first outlay in comparatively expensive machinery it would be advisable to make one contract annually for all the stone required instead of letting it in small blocks as has been heretofore customary.

Besides the placing of new macadam and the varied minor routine work done by the regular road force in the maintenance of roads, its labor was much increased the past year by the removal of the many landslides which have taken place on the older roads during the unusually protracted periods of heavy rain which prevailed in August, September, October, November and December, 1901, and during April, May and June of this year.

The law regarding the protection and guarding of roads heretofore in force was amended in a few unimportant points by the last legislature. The principal change made refers to the presentation of complaints and the collection of fines; the former are to be made hereafter before the police judges instead of before an alcade, the latter are to be imposed in accordance with the new penal code. This method is much simpler than the former one was by

which the accuser received one-third of the fines collected, the alcalde another third, and the remaining third was held and deposited in a fund reserved for the improvement of roads.

In reference to the comparatively high cost of maintaining the roads, it is believed that after the present extensive and unusual repairs made necessary by neglect dating back to the war are finished, and the general condition of the roads has assumed a more normal aspect, their maintenance will be less expensive to the government if executed by contracts covering a series of years. With rigid specifications and by the exercise of a constant and intelligent inspection, the result would be more satisfactory than now.<sup>7</sup>

<sup>7</sup> Contributed by A. Stierle, Superintendent of Public Works.